

**REMARKS**

Claims 12, 17 and 19 are canceled.

The claims have been amended as supported by claims 11, 18 and 20.

No new matter is believed to have been added by entry of this amendment. Entry and favorable reconsideration are respectfully requested.

Upon entry of this amendment Claims 11, 13-16, 18, 20-21 will now be active in this application.

Applicants respectfully request reconsideration of the application, as amended, in view of the following remarks.

Claim 11 includes the limitations of Claims 18 and 20 which were not rejected over Samour et al. Thus, the rejection over Samour et al is obviated.

Claim 22 includes the limitations of Claim 21 which was not rejected over Samour et al. Thus, the rejection over Samour et al is obviated.

Further, the rejections over Ishikawa et al, alone and in view of Kimihiro et al are traversed. The specification describes at pages 1 and 2:

For exterior applications it is common to use self-adhesive labels and tapes and also printed films comprising plasticized PVC as their backing material. Plasticized PVC films contain low molecular mass, phthalate-based plasticizers or polymeric plasticizers. One problem which may occur as a result of using these plasticizers is plasticizer migration from the film into the pressure sensitive adhesive (PSA). This detracts from adhesive performance. Not only the cohesion of the adhesive but also its adhesion to the surface to which the label or film is adhered are reduced, generally significantly, by the migration of the plasticizer into the adhesive.

In the exterior sector, the self-adhesive articles are also subject to the influence of moisture.

The action of water on the film of adhesive results in an unwanted white haze, also called blushing.

In self-adhesive articles featuring polymer film backing material, particularly plasticized PVC backing material, contraction of the film in the course of subsequent use is a frequent occurrence. Contraction is observable particularly if the self-adhesive articles in use are exposed to elevated temperatures.

There is therefore a desire for adhesives that produce self-adhesive articles having improved contraction behavior.

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An object of the present invention were therefore adhesives for self-adhesive articles with minimal contraction and maximum water resistance (blushing). The adhesives ought also to have good adhesion and cohesion and to have good processing properties.

The present invention in **amended claim 11** relates to a self-adhesive article, comprising:

- 1) an adhesive, comprising  
a polymer obtained by free-radical addition polymerization of ethylenically unsaturated monomers and synthesized from
  - (a) at least 60% by weight of principal monomers selected from the group consisting of C1 to C20 alkyl (meth)acrylates, and
  - (b) more than 1% by weight of a monomer containing at least two nonconjugated polymerizable vinyl groups selected from the group consisting of alkanediol diacrylates, alkanediol dimethacrylates and mixtures thereof; andwherein said polymer comprises hydrophilic groups selected from the group consisting of carboxyl groups, hydroxyl groups, carboxamide groups and mixtures thereof; and
- 2) a plasticized PVC substrate.

**Claim 22** relates to an adhesive, comprising:

a polymer obtained by free-radical addition polymerization of ethylenically unsaturated monomers and synthesized from

(a) at least 60% by weight of principal monomers selected from the group consisting of C1 to C20 alkyl (meth)acrylates, and

(b) more than 1% by weight of a monomer containing at least two nonconjugated polymerizable vinyl groups selected from the group consisting of alkanediol diacrylates, alkanediol dimethacrylates and mixtures thereof; and

wherein said polymer comprises hydrophilic groups selected from the group consisting of carboxyl groups, hydroxyl groups, carboxamide groups and mixtures thereof; and

wherein said monomer containing at least two nonconjugated polymerizable vinyl groups is selected from the group consisting of butanediol diacrylates, butanediol dimethacrylates, hexanediol diacrylates, hexanediol dimethacrylates and mixtures thereof.

Ishikawa et al, alone and in view of Kimihiro et al fail to disclose or suggest the self-adhesive article and the adhesive as claimed in claims 11 and 22, respectively.

The specification describes at page 9, line 36 to page 10, line 35:

The self-adhesive articles are generally composed of a backing with a layer of the adhesive applied to one or both sides, preferably to one side.

The backing material may comprise, for example, paper, preferably polymer films made of polyolefins or PVC, more preferably PVC, and with particular preference plasticized PVC.

By plasticized PVC is meant polyvinyl chloride which includes plasticizers and has a reduced softening temperature. Examples of customary plasticizers include phthalates, epoxides, and adipates. The amount of plasticizers in the plasticized PVC is generally more than 10% by weight and in particular more than 20% by weight.

With plasticized PVC, plasticizers can migrate into the film of adhesive and significantly impair its properties. With the adhesive of the invention, plasticizer

migration has virtually no effect, if any at all, on the properties of the adhesive. Moreover, particularly in the case of plasticized PVC, contraction of the substrates is prevented or reduced by the adhesive of the invention.

The present invention accordingly provides, in particular, self-adhesive articles comprising plasticized PVC backing material with, coated thereon, an adhesive layer comprising the above adhesive.

To produce the layer of adhesive on the backing material, the backing material can be coated conventionally.

The coated substrates obtained are used, for example, as self-adhesive articles, such as labels, adhesive tapes or films.

The self-adhesive articles comprising plasticized PVC backing material are particularly suitable for exterior applications.

In particular, printed self-adhesive films can be used in the exterior sector and can be adhered, for example, to advertising boards or vehicles of all kinds.

The self-adhesive articles of the invention have good performance properties, in particular a good peel strength (adhesion) and shear strength (cohesion). The properties remain good even where the backing material is plasticized PVC.

Haziness in the layer of adhesive as a result of moisture exposure (i.e., blushing) is observed barely if at all. Consequently, the layer of adhesive is highly water resistant. Virtually no contraction of the self-adhesive articles is observable, even when the articles are exposed to high temperatures, e.g., more than 50°C.

Thus, particular advantages are obtained using the PVC.

In addition, the Examples in the specification show superior properties when using plasticized PVC as shown in Table at page 12, reproduced below:

Copolymer composed of [pphm]	Peel strength on steel after 24 h (N/25 mm)	Blushing (visible blushing after)	Contraction after 3 d of storage at 70°C (gap width by cross-cut method)
60 EHA/27 EA/5 VAc/5 S/3 AA without crosslinker	30	2 h	0.4 mm
58.7 EHA/27 EA/5 VAc/5 S/3 AA/1.3 butanediol diacrylate	9	2 h	0.1 mm
58.7 EHA/27 EA/5 VAc/5 S/3 AA/1.3 AMA	1	10 sec	0.1 mm
EHA/EA/VAc/S/AA/1.3 diallyl phthalate	11	20 min	0.1 mm

Thus, the rejections should be withdrawn.

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This application presents allowable subject matter, and the Examiner is kindly requested to pass it to issue. Should the Examiner have any questions regarding the claims or otherwise wish to discuss this case, he is kindly invited to contact Applicants' below-signed representative, who would be happy to provide any assistance deemed necessary in speeding this application to allowance.

Respectfully submitted,

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